**Movement and Locality in the Cartography of Germanic:**

**a quantitative study with dependency structures**

The aim of this presentation is to investigate theoretical results on cartography (Rizzi,Cinque, 2016) and locality (Rizzi, 2004) with respect to grammatical structures in eleven Germanic varieties (Afrikaans, Danish, Dutch, English, Faroese, German, Icelandic, Norwegian Bokmål, Norwegian Norsk, Swedish, Swiss German) adopting quantitative tools and large-scale syntactically annotated corpora (Universal Dependencies Zeman et al. 2020). In particular, West Germanic languages represented an interesting case inthe literature allowing restrictions (bottleneck effect, Haegeman 1997) and freedom of movement (scrambling, Hinterhölzl 2006) of the constituents in different areas of the structures. We quantitatively test here if the two phenomena can be discussed under the same principle, namely locality as proposed in (Samo, 2019a), using a quantitative computational account (Merlo 2016). After having presented a model for mapping cartographic projections into universal dependencies (Zeman et al., 2020), a series of quantitative studies are carried out. We investigate two set of features: argumental vs. non-argumental and head vs. maximal projections. Results confirm that the more dissimilar (provided a definition of similarity) two elements are, the higher the frequency of an element lower in the structure in crossing an intervener. These results add a quantitative dimension to the qualitative descriptions provided in cartographic studies.

**Selected references**

Haegeman, Liliane, 1997. Negative inversion and the structure of CP. Paper presented at the Linguistic Colloquium, University of Wuppertal.

Hinterhölzl, Roland. 2006. Scrambling, remnant movement, and restructuring in West Germanic, [Oxford studies in comparative syntax] Oxford & New York: Oxford University Press.

Merlo, Paola. 2016. Quantitative computational syntax: some initial results. Italian Journal of Computational Linguistics, 2(1):11–30.

Rizzi, Luigi. 2004. Locality and left periphery. In The cartography of syntactic structures, ed. Adriana Belletti, 3, Structures and beyond:223–251. New York: Oxford University Press

Rizzi, Luigi, Guglielmo Cinque. 2016. Functional categories and syntactic theory, in Annual Review of Linguistics, 2, 2016.

Samo, Giuseppe. 2019a A Criterial approach to the Cartography of V2. John Benjamins Publishing.

Samo, Giuseppe. 2019b Cartography and Locality in German: a quantitative study with Dependency structures , Rivista di Grammatica Generativa/Research in Generative Grammar, 5, 1-26, ISSN 2531-5935. https://lingbuzz.com/j/rgg/2019/2019.05/samo\_cartography-and-locality-in-german\_RGG-2019-05.pdf

Samo, Giuseppe, Merlo, Paola 2019 Intervention effects in object relatives in English and Italian: a study in quantitative computational syntax, Proceedings of Quasy, Association for Computational Linguistics, 46 – 56. https://www.aclweb.org/anthology/W19-7906/

Schweikert, Walter 2005. The Order of Prepositional Phrases in the Structure of the Clause. Amsterdam: John Benjamins.

Zeman Daniel, Nivre Joakim, Abrams Mitchell et al. Universal Dependencies 2.6. 2020. LINDAT/CLARIAH-CZ digital library at the Institute of For-mal and Applied Linguistics ( ́UFAL), Faculty of Mathematics and Physics, Charles University.